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MONTHLY LETTER OF THE BUREAU OF ENTOMOLOGY.

U. S. DEPARTMENT OF AGRICULTURE.

Number 22.

February, 1916.

MANUSCRIPT FOR PUBLICATION OUTSIDE OF THE DEPARTMENT.

The present regulations require that a copy of every manuscript intended for publication outside of the Department be submitted to the Assistant Secretary for filing in his office. It will save considerable work and time if Bureau agents who submit manuscripts for publication outside of the Department send in three copies, one to be filed in the office of the Assistant Secretary, one to be sent to the publishers, and the third to be filed in the Bureau of Entomology.

DOCTOR HOWARD VISITS SOUTHERN FIELD STATIONS.

During the early part of March Doctor Howard will visit the field stations located at Orlando and Gainesville, Fla., Thomasville, Ga., and Columbia, S. C.

PROMPT MONTHLY REPORTS WANTED.

It is frequently necessary to write letters to agents to request monthly reports which are not received on time. All agents are urged to obviate this inconvenience by submitting their monthly reports promptly on the last day of each month.

WINTER ACTIVITY OF THE HOUSE FLY: DATA WANTED.

How the house fly passes the winter is a question which has never been settled. Elaborate experiments are under way near Washington which will throw much light on this subject, but I desire to obtain additional information from the field agents of the Bureau throughout the country. All of the agents are requested to make such notes as they can on the winter activity of the house fly during the next two months, and to send them to me by the first of May. If adult flies are observed at any time during cold winter weather an effort should be made to determine whether they have emerged from the puparia recently or have passed the time since the fall in the adult stage. Specimens should be preserved and submitted for final determination.
L.O.Howard.

NEWS OF AN ENTOMOLOGIST IN AFRICA.

A letter written by A.W.J.-Pomeroy from Kamerun, West Africa, on November 7, 1915, reached Washington on March 2. Mr. Pomeroy is now a lieutenant in the West African Frontier Force. He has been ill with some tropical fever but at the time of writing was on active duty.

A NEW SYSTEM OF SALARY ACCOUNTING FOR FIELD EMPLOYEES.

Up to about 1912 all field agents of the Bureau submitted signed vouchers for their salary, monthly, as it became due. In that year, however, this system was abolished and all field employees were paid on field pay-rolls made up at Washington, and the fact that the employees rendered service during the period was certified by the men in charge of the different branches. The Office of Inspection has recently investigated the different systems in operation in the various offices of the Department by which continuous service during the period covered by the field pay-roll is established. In compliance with recommendation made by the Office of Inspection a uniform system will be placed in operation in the Bureau of Entomology beginning with the month of March. This system is intermediate between the old and the present system. The pay-rolls including the names of the field men will be made up at Washington, as heretofore, and every field employee will submit a certificate covering the service performed from the first of the month to a date that will permit the mailing of the certificate in time to reach the Washington office on the 26th of the month, at which time the field pay-rolls will be sent to the Disbursing Office. In case the certificate covering service of any individual is not received by the time the field pay-roll is submitted to the Disbursing Office the Disbursing Clerk will be requested to hold the salary check until further advised, and the check will be held until the certificate is received. This system will not involve any delay in the payment of salary accounts unless field agents omit to submit their certificates of service in sufficient time.

All service certificates will be signed by the payee and countersigned by the agent in charge of the field laboratory. Where there is only one man at a laboratory, or several working independently, no counter-signature will be required. If a field employee is absent from duty during the period from the date of signing his certificate to the end of that month such absence will be reported to the Bureau by telegraph on the last day of that month.

Forms for the certificate of service will be distributed early in the month of March.

Service certificates will not be required for employees whose services are performed under Letters of Authorization.

NEW PUBLICATIONS.

The following entomological publications have been issued since the date of the January Monthly Letter of the Bureau of Entomology:

Observations on the life history of the cherry leaf beetle. By Glenn W. Herrick and Robert Matheson. Journ. Agr. Research.

(The Bureau of Entomology presented for publication, on October 25, 1915, a paper by R. A. Cushman and Dwight Isely, entitled The Cherry Leaf-Beetle. The publication of this full and extended report, unfortunately delayed, was not sent to the Government Printing Office until December 30, following.)

Life-history studies of the Colorado potato beetle. By Pauline M. Johnson and Anita M. Ballinger. Journ. Agr. Research.

Morphology and biology of the green apple aphid. By A. C. Baker and W. F. Turner. Journ. Agr. Research.

The spring grain aphid or "green bug" in the Southwest and the possibilities of an outbreak in 1916. By F. M. Webster. Circular No. 55, Office of the Secretary.

The catalpa sphinx. By L. O. Howard and F. H. Chittenden. Farmers' Bulletin No. 705.

The leopard moth: A dangerous imported insect enemy of shade trees. By L. O. Howard and F. H. Chittenden. Farmers' Bulletin No. 708.

Termites, or "White Ants," in the United States: Their damage and methods of prevention. By Thomas E. Snyder. Dept. Bull. 333.

Destruction of house ants, C. L. Marlatt. No. E-22, one-page flexotyped circular.

Notes on five North American buffalo gnats of the Genus Simulium, A. W. Jobbins-Pomeroy, Dept. Bull. No. 329.

LIBRARY.

Miss Mabel Colcord, Librarian.

NEW BOOKS.

Bryan, W.A. Natural history of Hawaii. Honolulu, 1915. 506p. 116pl.
Chapter XXX-XXXI, Important economic insects, p.379-410.
Chapter XXXII Native insects, p.411-431.

Dammerman, K.W. Die rijstboorderplaag op Java. Batavia, 1915. 71p. illus.
maps. (Dutch East Indies. Dept. van landbow, nijverheid en
handel. Laboratorium voor plantenziekten. Mededeelingen no.16.)

Garman, Harrison. Twig blight and pear blight. (Kentucky Agr.Exp.Sta. Div. of
Ent. and Bot. Circular 2)

Haseman, Leonard. Some insect pests and their enemies. Columbia, Mo. 1915. 34p.
illus. (Missouri State Bd.Agr.Monthly Bul. vol.13, no.10)

Hegh, E. Notice sur les glossines ou tsetsets. Londres, 1915. 148p. illus.
pl. (Belgium. Ministre des Colonies. Service de l'agriculture.
Etudes de biologie agricole: No.1)

Imms, A.D. On the structure and biology of Tachardia lacca, Kerr., with observa-
tions on certain insects predaceous or parasitic upon it.
Calcutta, 1915. 42p. 8 pl. (Indian forest records. Forest zool.
ser. v.3, pt.1)

Jordan, H.E. and Ferguson, J.S. A text-book of histology. N.Y. and London,
1915. 799p. illus.

- Keilin, D. Recherches sur les larves de dipteres cyclorhapes. Cycle evolutif de "Pollenia rudis Fabr." parasite d'*Allolobophora chlorotica* Sav." Biologie comparee des larves de dipteres. (Bulletin scientifique de la France et de la Belgique ser. 7, T. XLIX, fasc.1-2, p.15-198, 16 plates. Dec. 30, 1915.
- Linnaniemi, W.M.A. Berattelse ofver skadeinsekters upptradande i Finland ar 1913. Helsingfors, 1915. 67p. illus. (Finland. Landbruksstyrelse. Landbruksstyrelsens meddelanden no.99)
- Love, John W. The "airline" honey book. Medina, O. 1915. 64p. illus.
- Mauritius- Dept. of agriculture. Bulletin. Scientific ser. no. 2. Port Louis, 1915. Insects injurious to stored grains in Mauritius, by D. D'Emmerez de Charmoy.
- Missouri State fruit experiment station. Mountain Grove. Bulletin 25, August, 1915. Borers of fruit trees, canes and vines, by W.P.Somes. 23p.
- Nuttall, G.H.F. Ticks, a monograph of the Ixodoidea. By G.H.F.Nuttall... C.Warburton... W.L.Cooper... L.E.Robinson. Cambridge, [Eng.] 1915. pt.3. illus. plates.
- Nuttall, G.H.F. Ticks, a monograph of the Ixodoidea. Bibliography of the Ixodoidea by G.H.F.Nuttall and L.E.Robinson. Cambridge, [Eng.] May, 1915. pt.2.
- Le Prince, J.A. Mosquito control in Panama... by Joseph A.LePrince and A.J. Orenstein... with an introduction by L.O.Howard. New York and London, 1916. 335p. plates.
- Rhumler, Ludwig Die bucherinden-wollaus (*Cryptococcus fagi*) und ihre bekampfung. Neudamm, 1914. 32p. (Neudammer forstliche belehrungshefte)
- Shaw, H.B. The sugar beet nematode and its control. [Chicago, 1915.] 55p. illus.pl. (Reprint from Sugar [Chicago] Feb.-Sept.1915)
- U.S.Dept. of Commerce. Bureau of fisheries and domestic commerce. Special agents series no.105. 1915. Contents: Terms used in the cotton industry, by W.A.Graham Clark.
- Walton, W.R. Francis Marion Webster. (Science new ser. v. 43, no. 1101, p. 162-164, Feb. 1916)

BEE CULTURE.
E. F. Phillips, In Charge.

Dr. E. F. Phillips attended the annual convention of the National Beekeepers' Association at Chicago, Illinois, February 22-24. Prof. Francis Jager was elected president.

Mr. Geo. S. Demuth attended the annual meeting of the New Jersey Beekeepers' Association at New Brunswick on February 10-11. He will also attend the Pennsylvania Beekeepers' Association at Lancaster, March 3-4.

CEREAL AND FORAGE INSECT INVESTIGATIONS.

Mr. T. D. Urbahns, who has been at headquarters for the purpose of consultation and the preparation of manuscript, has returned to his field station at Pasadena, California.

Mr. C. K. Wildermuth, recently attached to the staff at the Maxwell, New Mexico field station, has resigned in order to continue his studies.

Mr. Daniel G. Tower, recently located at the West Lafayette, Ind., field station, has been transferred to the office of Tropical and Subtropical Fruit Investigations.

DECIDUOUS-FRUIT INSECT INVESTIGATIONS.
A. L. Quaintance, In Charge.

Mr. F. L. Simanton, who has been in Washington for the winter months, has returned to his field station at Benton Harbor, Mich., for the purpose of resuming his work in orchard-insecticide investigations.

Mr. A. I. Fabis has returned to his field station at Monticello, Fla., after spending some time in Washington. He will resume his duties at Monticello, assisting Mr. Gill in pecan-insect investigations.

Mr. A. J. Ackerman, who has been working on nursery insects at West Chester, Pa., is now in Washington in connection with the preparation of his field notes.

Mr. E. W. Geyer, who has been preparing manuscript on the biology of the codling moth in New Mexico, has returned to his field station at Roswell.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS.
W. D. Hunter, In Charge.

The work of the Bureau on animal parasites is in direct charge of Mr. F. C. Bishopp at Dallas, Texas. At that place Messrs. H. P. Wood and E. W. Laake are located continuously, and Mr. W. E. Dove is present during the winter months. The work conducted follows a considerable number of lines, among which may be mentioned the work on the biology and control of the various ticks, ox warbles, stable fly,

horn fly, and pests of poultry, including lice, mites and fleas; also on the control of flies about slaughter and packing-houses.

Temporary field laboratories are established in regions where losses are most severe. One of these substations is located at Uvalde, in the semiarid region of Texas. Mr. D. C. Parman, who is located here, devotes the major part of his time to investigations of the so-called screw worm, and to certain species of Tabanidae which are very abundant and also concerned in the transmission of anthrax. Mr. J. D. Mitchell, with headquarters at Victoria, Texas, devotes a portion of his time to work on insects affecting live stock. Mr. W. E. Dove, during the past season, conducted investigations on the horse bots, particularly *Gastrophilus haemorrhoidalis*, at Aberdeen, South Dakota. Arrangements have been made for the study of Tabanidae, which are important pests of live stock in parts of Nevada and California, in cooperation with the experiment station of Nevada. It is possible also that other work with horseflies will be taken up in the swampy area in southeastern Texas and southern Louisiana during the coming year. It is hoped that various agents of the Bureau will assist as far as possible in this work by making notes on insects affecting animals when such occurrences come to their notice in connection with their other work. Specimens of various animal pests will also be gratefully received at the Dallas laboratory.

A. H. Jennings returned to duty on March 1.

T. E. Holloway, in charge of the laboratory at New Orleans, was in Washington during the month.

F. C. Bishopp, in charge of the laboratory at Dallas, Texas, underwent a serious operation at that place during the month. His condition is greatly improved.

TROPICAL AND SUBTROPICAL INSECT INVESTIGATIONS.

C. L. Marlatt, In Charge.

Dr. E. A. Back has substantially completed his work in Honolulu and will shortly report to Washington to complete the general bulletin on the Mediterranean fruit fly. Mr. C. E. Pemberton will remain in Honolulu in charge of the work, assisted by Mr. Willard, who is in direct charge of the inspection and certification of export fruits in cooperation with the Federal Horticultural Board of this Department. The future development of the research work in the Hawaiian Islands in relation to the fruit fly will be determined after Dr. Back returns to Washington.

Dr. Back has recently submitted to the home office a very interesting book of photographs illustrating the fruit-fly work and conditions in Hawaii. In this book are photographs of drawings of four of the introduced parasites. *Opius humilis* is the one which has hitherto been reported as being so efficient in its parasitism of larvae, particularly on coffee plantations. Among the parasites figured, however, is a species, *Diachasma fullawayi*, more recently established, which, within a single year, has so increased that in one collection of coffee berries ninety-two per cent of the larvae were found parasitized. Further details relative to these and other parasites are given in papers already published by Dr. Back.

The cotton fumigating plants reported in a previous number of this letter are being investigated this week by Mr. Sasser. They are having their preliminary practical tests, and it is expected that within a few days the fumigation of all imported cotton will be undertaken. Mr. Maskew wires from San Francisco that the plant being erected at Oakland will also be ready for operation about the first of March. The supervision of this fumigation of cotton will probably require the

services of six or eight men -- four in Boston, two in New York, and two in San Francisco, with such increase in the service as the erection of additional plants may necessitate. Importers of nursery stock are becoming interested in this new method of disinfection, and are making inquiries relative to its applicability to nursery stock.

Mr. Borden, who has direct charge under Mr. Sasscer of the greenhouse insect project, is achieving some very interesting results in the experimental greenhouse which has been erected by this Bureau.

Mr. Yothers attended the twenty-eighth annual meeting of the Florida State Horticultural Society held at Tampa in April, 1915. In the report of this meeting, recently issued, very favorable comment is made on the work on which Mr. Yothers has been engaged for a number of years in Florida, and a rising vote of thanks was given him in appreciation of his splendid work on the rust mite.

TRUCK CROP AND STORED PRODUCT INSECT INVESTIGATIONS.
F. H. Chittenden, In Charge.

Mr. D. E. Fink, Entomological Assistant, who has been searching literature on various insects injurious to truck crops, has returned to his permanent headquarters at Norfolk, Va.

The season which has just passed, according to reports from various agents and other representatives in the field, has been remarkable for the scarcity of most species of aphides, or plant-lice; especially has this been noticed in Michigan where efforts are being made to experiment on the pea aphid which has been very injurious in that State as well as elsewhere in previous years.

The onion thrips, according to Mr. M. M. High, is about as abundant as usual in south Texas, more so than in the previous year, and he is of the opinion that it will increase in numbers unless checked. The growers generally are handling the proposition very well, especially at Mission, Tex.

One of the greatest troubles experienced in the control of many forms of insects injurious to vegetables and truck crops is in obtaining the best sprayer for each crop grown, and in adapting the planting so that the sprayer may be used to the best advantage for the destruction of the principal pests. Considerable progress is being made along this line.

